

Easy

Deputy Executive Engineer (Electrician) 2026

Gujarat Public Service Commission / Assistant Engineer (Electrical)

The principal informations obtained from load flow studies in a power system are 1. magnitude and phase angle of the voltage at each bus. 2. reactive and real power flows

A

1 and 2 only

B

3 and 4 only

C

1, 2 and 3

Correct

D

2 and 4 only

Correct Answer: C

Full Detailed Explanation

Correct Answer: C - 1, 2 and 3 Quick Concept Explanation Load-flow studies determine the steady operating state of a power network: bus voltage magnitudes/angles, line real and reactive power flows and system losses. The bus-admittance matrix is sparse. Key relation: Bus variables:

$P, Q, |V|$, ; each bus specifies two and solves two. Exam focus: PQ, PV and slack buses differ by which two variables are specified. Common trap: Transient stability is not a direct output of ordinary load flow. Statement-wise Verification Statement 1 - Correct. magnitude and phase angle of the voltage at each bus. Load-flow studies determine the steady operating state of a power network: bus voltage magnitudes/angles, line real and reactive power flows and system losses. Statement 2 - Correct. reactive and real power flows in each of the lines. Load-flow studies determine the steady operating state of a power network: bus voltage magnitudes/angles, line real and reactive power flows and system losses. Statement 3 - Correct. total power loss in the network. The bus-admittance matrix is sparse. Statement 4 - Incorrect. transient stability limit of the system. The correct principle is: The bus-admittance matrix is sparse. Core Concept Load-flow studies determine the steady operating state of a power network: bus voltage magnitudes/angles, line real and reactive power flows and system losses. The bus-admittance